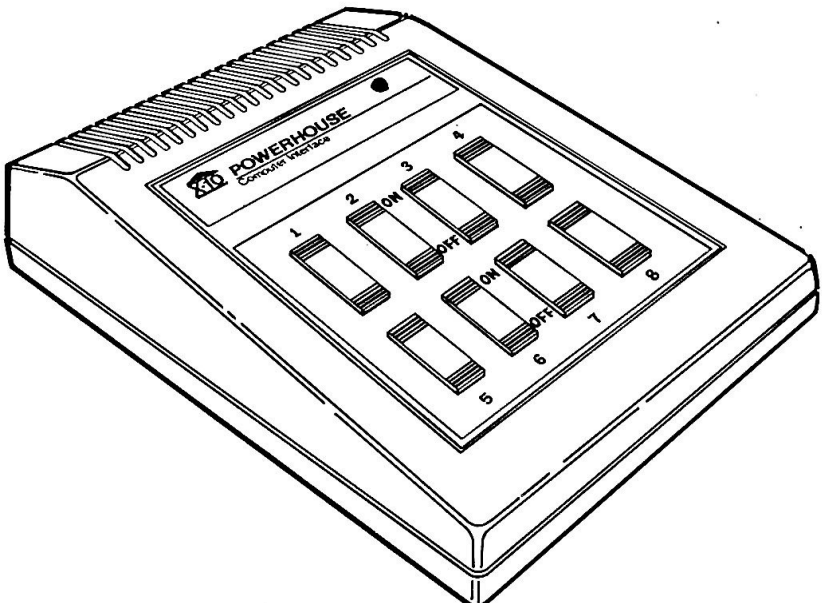
X·10® POWERHOUSE™

Model CP290



Computer Interface Owner's Manual

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The *POWERHOUSE*™Computer Interface can deter intruders by making your home look and sound lived in whether or not you are there. You never have to come home to a dark house again, or leave the outside lights on all day to get the key in the door at night. The POWERHOUSE Computer Interface can turn the outside lights on for you.

It can wake you up to stereo or TV news, light up your bedroom, hallway, bathroom; start the coffee, start your central heating or air conditioning, warm up the curlers, and all before you're even out of bed; but it's smart enough not to wake you up on weekends.

At night it can lower the heat, play music or your favorite late night TV show for as long as you set it, and can first dim and later turn out the lights automatically.

The Computer Interface works with the Apple IIe and IIc, the Commodore 64 and the IBM PC. A different program and data cable are necessary for each computer and therefore the disk and cable are sold separately as a kit.

This manual describes how to set up the Interface and the various modules (see Appendix B for module types available) and how to **manually** operate the modules from the Interface. It is recommended that you set up your Interface to control the X-10 modules manually before connecting it to your computer.

If you already own other X-10 components, and are adding the Computer Interface to your system, you may wish to skip this manual and go directly to the manual supplied with the software.

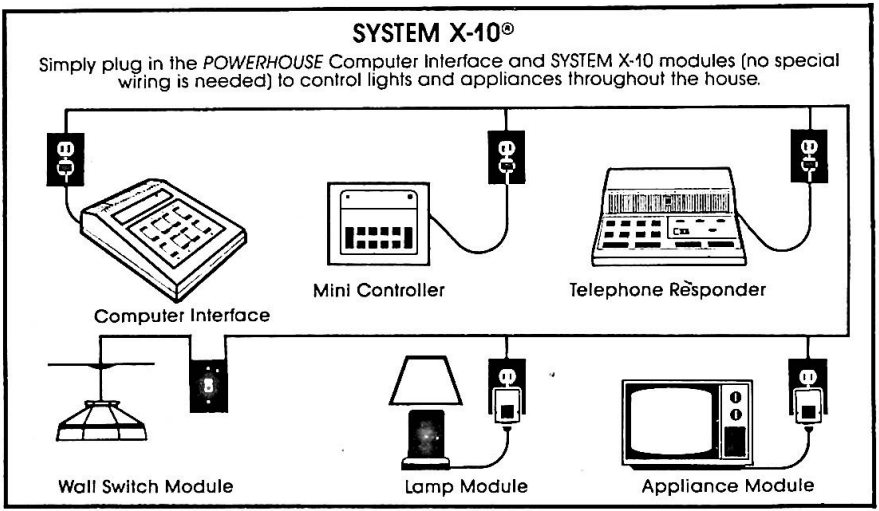
A Word of Caution...
Keep in mind that your Computer Interface will **always** turn lamps and appliances on or off the instant you press the rocker keys or at the times you have previously programmed it to do so. That's obvious—but there can be some unexpected consequences.

For example, an empty coffee pot can be remotely turned on. If that should happen, your coffee pot may be damaged from overheating. If an electric heater is turned on by remote control while clothing just happens to be draped over it, a fire could result.

Therefore, always be aware of what appliance you are turning on or off so that potentially dangerous situations will not occur.

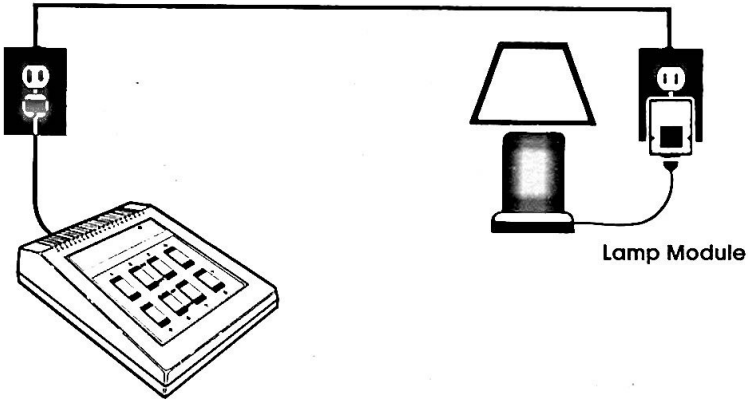
6 WHAT IT DOES

The *POWERHOUSE* Computer Interface controls lights and appliances throughout your home from any convenient location. You plug lamps into Lamp Modules, plug appliances into Appliance Modules and replace wall light switches with Wall Switch Modules. You can then control virtually everything electrical in your home using the Computer Interface with your Home Computer (see separate manual supplied with software). You can also use the Interface to manually turn on or off up to 8 lamps or appliances from its rocker keys.



The Computer Interface tells the modules what to do. Command signals are sent over your existing house wiring to the module or modules you select. The modules respond to the command signals. The Lamp Module turns **on and off, dims and brightens** lamps. The Appliance Module turns an appliance like a TV, window fan or stereo **ON and OFF.** It can also be used for a lamp—but cannot dim it. The Wall Switch Module turns **on and off, dims and brightens** lights which are normally operated by a wall switch. See Appendix B for module types and ratings.

Command signals are sent over house wiring.



8 INTERFACE DESCRIPTION AND INSTALLATION

The *POWERHOUSE* Computer Interface connects to your home computer RS-232 port. It will work with the Apple IIe and IIc, the Commodore 64 and the IBM PC. The data cable and the software program, are different for each brand of computer, and for this reason are sold together as a separate kit. The software comes with its own manual so we won't go into too much detail here (see software manual for your particular brand of computer). You can also write your own software with the aid of the programming guide supplied with the interface.

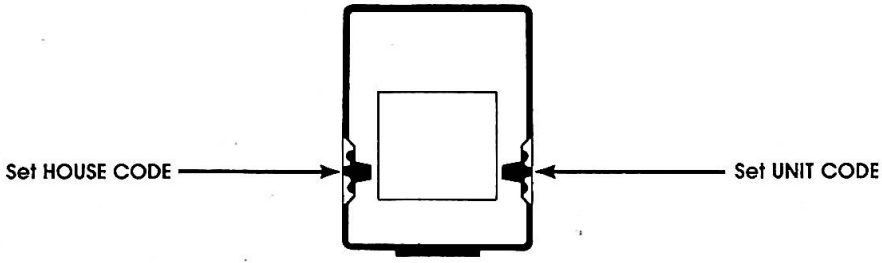
The software provides a graphical representation of the rooms in your house on your monitor or TV screen. You install ICONS (pictures of lights and appliances) in these graphical rooms to represent the lamps and appliances which are plugged into X-10 modules. These ICONS are then selected using the joystick, and a series of questions such as "do you want to turn the light On or Off" are answered by selecting with the joystick and confirming with the joystick button. You can also program lights and appliances to go on and off at specific times by simply using the joystick to select answers to the questions given; e.g. "do you want the light to go on TODAY, TOMORROW, EVERY DAY or SPECIFIC DAYS, etc.

All installed icons and programmed information are stored in the Interface which has its own real time clock and battery back-up. After programming, the Interface can be disconnected from the computer and will continue to send signals to the modules at the specified times. This allows you to use the computer for other applications. The rocker keys on the Interface allow instant manual control of up to 8 modules without reconnecting to the computer.

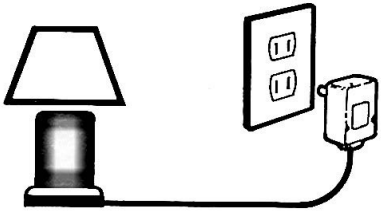
Before connecting the Interface to your computer, it is recommended that you first set up your modules and check that the Interface works manually from its 8 rocker keys. First plug the Interface into a 120 V outlet where you intend to leave it. The Interface will be set to **Housecode A** when you first plug it in. This can be changed later under program control but for now you should set up your modules to work on Housecode A and any unit code between 1 and 8. Install a 9 V Alkaline battery in the battery compartment on the Interface. The Interface will then retain all programmed information, during a power outage of up to 100 hours, or if you wish to move the Interface to another room. The Transmit light will pulse on, approximately once every 5 seconds when the Interface is unplugged from the 120 V outlet and a 9 V battery is installed. This is to remind you that it is running on battery power.

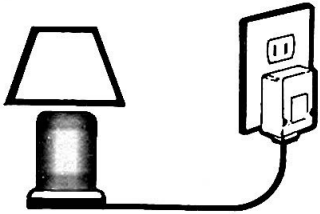
SETTING UP LAMPS

1. Set the red **Housecode** dial on the Lamp Module to **"A"**. You can choose a different code later when setting up the computer, for now you are just checking that you can control the module in the desired location from the location where you intend to place the Interface (the Interface is set to house code A when you first plug it in).
2. Set the black **Unit Code** dial on the Lamp Module to a number between 1 and 8. You can choose a different code later when setting up the computer (the software automatically offers you the next code available as you install ICONS but also allows you to select a different code).



3. Check that the lamp switch is in the ON position, unplug the lamp from the receptacle and plug it into the Lamp Module.

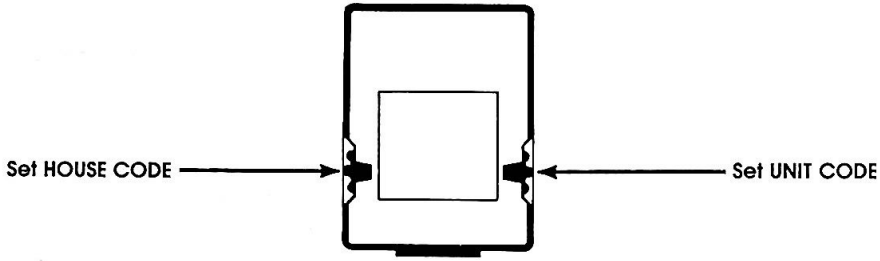




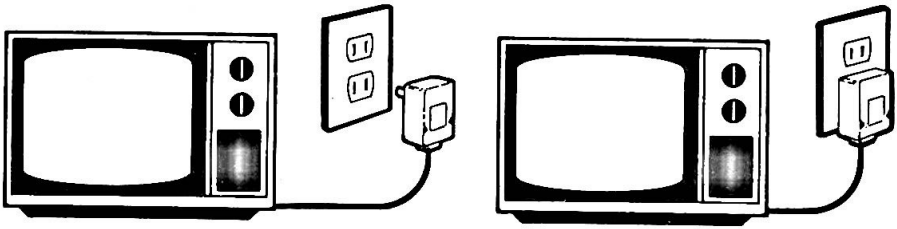
4. Plug the Lamp Module into a standard 120 V AC wall outlet.
5. The lamp will be OFF at this time.
6. Repeat steps above for any other lamps you wish to set up.
7. To turn the Lamp Module ON or OFF, Press ON or OFF side of the rocker key on the Interface corresponding to the unit code which you set on the lamp module.

   Refer to Appendix D—troubleshooting if this does not happen.

1. Set the red **Housecode** dial on the Appliance Module to **"A"**. You can choose a different code later when setting up the computer (see page 10).
2. Set the black **Unit Code** dial on the Appliance Module to number between 1 and 8. Again you can choose a different code later when setting up the computer.



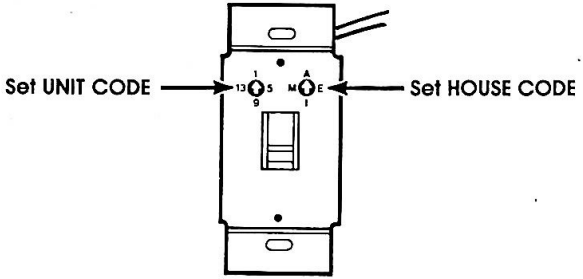
3. Check that the appliance switch is in the ON position, unplug the appliance from the receptacle and plug it into the Appliance Module.



4. Plug the Appliance Module into a standard 120 V AC wall outlet (appliance may be ON or OFF at this time).
5. Repeat steps above for any other appliances you wish to control.
6. To turn the Appliance Module ON or OFF, Press ON or OFF side of rocker key on the Interface corresponding to the unit code you set on the appliance module.

   Refer to Appendix D—troubleshooting if this doesn't happen.

1. Using a small screwdriver, turn the red **Housecode** dial on the Wall Switch Module to **"A"**. Turn the black **Unit Code** dial to a number between 1 and 8. You can choose a different code later when setting up the computer (see page 10).

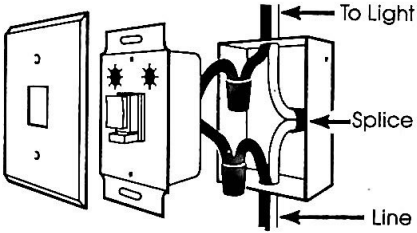


WS711

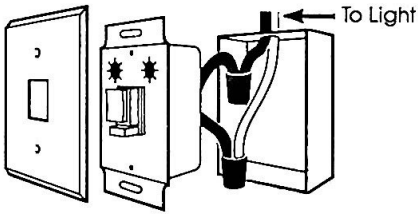
STOP 3. TURN OFF THE POWER AT THE CIRCUIT BREAKER OR FUSE.

4. Remove existing wall switch plate, unscrew the old switch from the wall box, and disconnect the wires from it.
5. See the diagrams on page 15. Connect the wires on the Wall Switch Module (black and blue) to the same two wires that went to the old switch using the wire nuts provided. Make sure that the connections are tight and that there are no bare "whiskers" of wire which can touch the wall box.

Fixture at end of Line



Module at end of Line



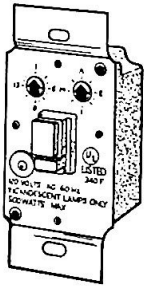
Use electrical tape to cover bare wire ends if necessary.

6. Screw the Wall Switch Module back into the wall box. Move the power slide switch to the ON position (to the right, in the center). Do not replace the wall plate yet as you may want to change the unit code to another number when you set up the Interface from the computer.
7. Repeat steps above for any other wall switches you want to control.
8. To turn module ON or OFF, Press ON or OFF side of rocker switch on the Interface corresponding to the unit code set on wall switch module.

Local Control

You can turn ON a light or appliance connected to a module, with its own power switch. Simply turn the switch OFF then ON again once or twice. For lamps with three-way bulbs, you will have to rotate the power switch several times before the light comes ON. An instant—On TV connected to an appliance module cannot be turned on with its own switch; it will work from the Interface or another X-10 controller only.

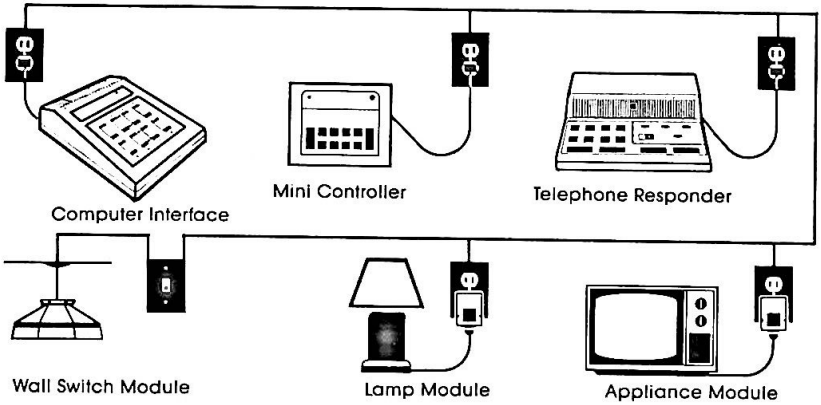
The Wall Switch Module can be turned ON or OFF locally using its push button.

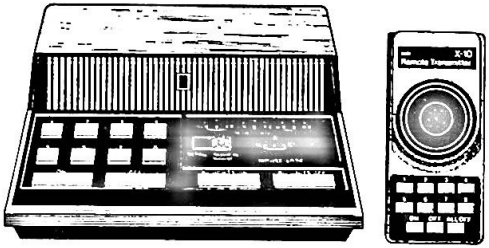


Wall Switch Module
CAT. NO. WS711

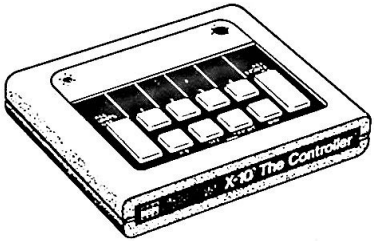
Add other controllers

You can have greater benefits if you add other controllers to your system. The' Computer Interface allows manual control of up to 8 modules from its rocker switches whether or not it is connected to the computer. It would be useful to have this manual override capability from 'other locations. The Mini Controller allows you to manually turn ON or OFF up to 8 lights and appliances and DIM and BRIGHTEN lamps from any room in the house. It is also perfect for controlling lights, music and TV within one room—a bedroom for example.





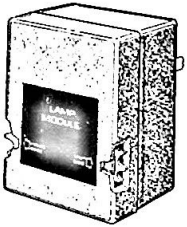
Telephone Responder
CAT. NO. TR2700
Plugs into standard modular telephone jack and standard 120 Volt wall outlet. Enables you to telephone your home from anywhere and turn lights, appliances or central heating/ air conditioning on and off.



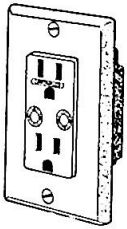
Mini Controller
CAT. NO. MC260
Just plug it in (no special wiring is needed) and instantly control 8 lights and appliances throughout the house with the push of a button from one convenient location.

The Timer
CAT. NO. TC262
Just plug it in (no special wiring is needed) and program up to 8 lights, appliances, and central heating/air conditioning to turn on and off up to twice a day at the times you want.

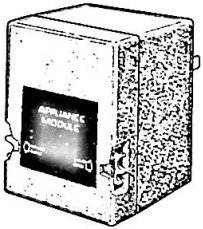
Burglar Alarm Interface
CAT. NO. BA284
Connects to your present burglar alarm system. Frightens intruders by flashing lights or blasting stereo, TV or radio together with your existing alarm.



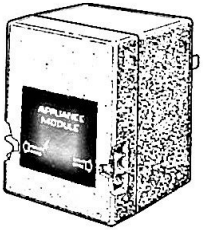
Lamp Module
CAT. NO. LM511
Maximum rating, Incandescent lamp: 300 watts.



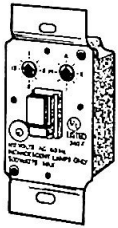
Wall Receptacle Module
CAT. NO. SR227
Maximum rating, 15 amps.



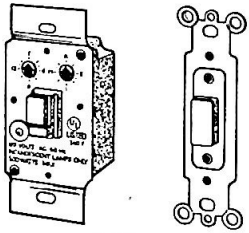
2-Prong Polarized Appliance Module
CAT. NO. AM286
Maximum ratings, Resistive load: 15 amps, Motor load: 1/3 HP, Incandescent lamp: 500 watts, Television: 400 watts.



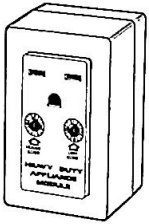
3-Prong Grounded Appliance Module
CAT. NO. AM611
Maximum ratings, Resistive load: 15 amps, Motor load: 1/3 HP, Incandescent lamp: 500 watts, Television: 400 watts.



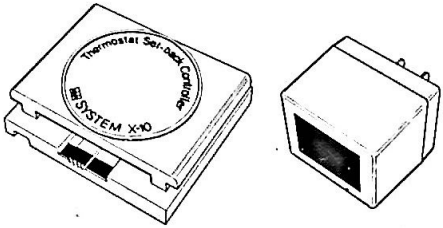
Wall Switch Module
CAT NO. WS711
Maximum rating, Incandescent lamp:
500 watts.



3-Way
Wall Switch Module
CAT. NO. WS2677
Maximum rating, Incandescent lamp:
500 watts.



Heavy Duty
Appliance Module
CAT. NO. HD243/245
Maximum rating 15/20 amps.
Split phase systems only.



Thermostat Controller
CAT. NO. TH2807
Automatically turns down central heating/air conditioning when you're sleeping or not at home.

APPENDIX C—SOME DONT'S

DON'T Use a **Wall Switch Module** to control a Fluorescent light, a fan, or any kind of appliance. This could cause damage to the module and/or the light/appliance.

DON'T Use a **Wall Switch Module** to control an outlet unless you are sure no one will plug an appliance (a vacuum cleaner, for example) into the outlet. See above.

DON'T Use a **Lamp Module** to control a fluorescent light, a fan, or any kind of appliance.

DON'T Use a **Lamp Module** or a **Wall Switch Module** to control a lamp or fixture which already has a dimmer on it.

DON'T Use a module to control something which would be dangerous if it were turned on remotely while unattended; e.g., an empty coffee pot, an electric fan with poorly protected blades, etc.

DON'T Use a **Wall Switch Module** for lamps less than 60 watts.

DON'T Leave a wireless intercom or baby monitor in the permanent transmit (or talk) mode. Its transmissions could "block out" X-10 transmissions.

DON'T Exceed the rating of the modules:

Lamp Module—300 watts **incandescent** only.
Wall Switch Module—500 watts **incandescent** only.
Appliance Module—appliances rated 15 Amp. resistive (such as coffee pots and heaters) or 1/3 H.P. motor load, or 400 watts for TV sets or 500 watts for lamps, because of the "inrush current" from a cold lamp.

1. If a module won't go on or off manually from the rocker keys:

Check that you have power to the outlet controlling the module and the switch on the light or appliance is ON.

Check that the red light on the Interface goes on when you press a rocker key.

Check that the unit code and housecode on the module are set correctly. The housecode on the Interface will be "A" unless you changed it when you set up the program.

Try plugging the module and the Interface into the same outlet. If it doesn't work in ANY outlet, not even with the module and the Interface in the same duplex receptacle (top and bottom) replace the module. If it works in some outlets but not in others, contact the factory for help.

2. If the Interface appears to be "completely dead."

Before returning it, unplug it from the 120 V outlet, remove the battery and wait 10 seconds. Then reconnect it to the outlet, re-install the battery and see if it works. Note, you will have lost all of your programmed information by doing this but if the Interface now works this indicates that the microprocessor was "latched up," a rare condition which can occur with CMOS circuitry.

3. If a module doesn't go on or off at the programmed times.

First check that the module works from the Interface keys; see No. 1 above. Connect the Interface to the computer and select the REVIEW mode. Check that you entered time, day and am/pm correctly for the module in question.

If you find NO PROGAM (i.e., no timed events, etc.) check the battery in the Interface. You may have had a power outage, and if the battery is dead, you could have lost all of your program.

Check that the clock (time and day) is set correctly at the initial set-up stage.

Check that the housecode is set correctly at the initial set-up stage.

INTERCOM SYSTEMS.

Intercom systems which send voice signals over existing electrical wiring may interfere with the operation of your Interface when the intercom is in use. If the Intercom system has its own separate wiring it will not interfere with the Interface.

POWER INTERRUPTIONS.

Your Interface has battery back up (if you installed a 9 V Alkaline battery) to protect your program in the event of a power outage. However, when the power is restored after an outage, Lamp Modules and Wall Switch Modules will normally be OFF. Appliance Modules will stay as they were before the interruption.

Radio—TV Interference.

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been tested and found to comply with the specifications in subpart J of part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, you should try to correct the interference by one of the following measures.

- Reorient the antenna of the receiver experiencing the interference.
- Relocate the Interface with respect to the receiver.
- Move the Interface away from the receiver.
- Plug the Interface into a different outlet so that the Interface and the receiver are on different branch circuits.

If necessary, consult your dealer or an experienced radio/television technician for additional suggestions. You may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio–TV Interference Problems." This booklet is available from the United States Government Printing Office, Washington, DC 20402, Stock No. 004-0035-4.

LIMITED 1-YEAR WARRANTY
X-10 PRODUCTS

X-10 (USA) INC. warrants X-10 products to be free from defective material and workmanship for a period of one (1) year from original date of purchase at retail. X-10 (USA) agrees to repair or replace, at its sole discretion, a defective X-10 product if returned to X-10 (USA) within the warranty period and accompanied by proof of purchase.

If service is required under this warranty:

1. Return defective unit, postage or freight prepaid to:
   X-10 (USA) INC.
   185A Legrand Ave.
   Northvale, NJ 07647
2. Enclose dated proof of purchase.
3. Enclose check or money order for $2.00 to cover handling and return postage.
4. X-10 (USA) is not responsible for shipping damage. Units to be returned should be packed carefully.

This warranty does not extend to any X-10 products which have been subject to misuse, neglect, accident, incorrect wiring or to use in violation of operating instructions furnished by us, nor extend to any units altered or repaired for warranty defect by anyone other than X-10 (USA). This warranty does not cover any incidental or consequential damages and is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

Some states do not allow limitations on how long an implied warranty lasts, and/or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific rights and you may also have other rights which vary from state to state.

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